

A METHOD AND APPARATUS FOR TESTING ROUTABILITY

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ABSTRACT

A method and apparatus for determining routing feasibility of a plurality of nets. Each net has an associated set of one or more routing solutions, wherein each solution specifies one or more routing resources consumed by the net. A liveness Boolean function is generated having variables that represent respective net/solution pairs. If there exists a set of values for the variables such that at least one of the variables for each net is logically true, then the liveness function is true. An exclusivity function is generated using the variables that represent the net/solution pairs. If there exists at least one set of values for the variables such that no resource is used by more than a predetermined number of nets, then the exclusivity function is true. The nets are routable using the provided solutions if there is one set of values for the variables such that both the liveness and exclusivity functions are true.